SUBJECT INDEX

b – Book Review *c* – Letter to the Editor

Acrolein, eye:lung sensitivity 265–267
Actinomycetes, airborne
  cotton mills 1–19
  landfill sites 508–509
Activated carbon sorbents 31–38
Aerosol generation, fibrous dusts 401–403, 732–733, 766–767, 776–777
Aetiology of cancer 791–797, 799–802, 803, 816–817
Air ions, effect on mood and performance 285–290
Air sampling
  at cotton mills 3
  at landfill sites 506–508
  for ketones 31–38
  for mercury vapour 139–140
  for oil mist 241–247
Air sampling instruments
  cascade impactors 464–472
  cyclones 39–52
  detector tubes 31–38
  diffusive 105–106*c*
  high flowrate 39–52, 195–209
  konimeters 441–449, 451–461
  light-scattering 181–193
  personal 275–276*b*, 463–479
  size-selective 39–52, 181–193, 195–209, 463–479
Airflow, visualization using water fog 255–259
Ammonia, eye:lung sensitivity 265–267
Animal studies
  asbestos 233–240, 755–764
  in hamsters 731–754
  in rats 233–240, 375–393, 693–709, 711–729, 731–754, 755–764, 765–790
  MMMF 693–709, 711–729, 731–754, 755–764, 765–790, 803
  quartz 375–393
  titanium dioxide 375–393
Annals of Occupational Hygiene
  Editor: WH Walton *v–xiv*
  Publisher: R Maxwell *xiii*
Arsenic, confounding MMMF exposure 612–615, 816
Asbestolux board, source of airborne fibres 429–439
Asbestos
  airborne levels in buildings 119(*corr.*), 429–439
  amosite 261–264
  animal studies 233–240, 755–764
  carcinogenicity 395–400, 755–764
  chrysotile 233–240, 683–692, 693–709, 755–764
  confounding MMMF exposure 613–616, 663–675, 681
  crocidolite 683–692, 693–709
  detection in bulk samples 227–232
  detection limit 261–264
  determination in talc 219–225
  erionite 683–692
  fibre durability 683–692, 693–709
  fibre size distribution 233–240
  lung clearance 233–240, 693–709
  sample evaluation 363–373
  screening, test kit 227–232
  tremolite 219–225
Audiometry 277(*corr.*)

Bacteria, airborne
  cotton mills 1–19
  landfill sites 506–510
Benzene exposure, from petrol 345–355
Biological monitoring
  chemical hazards 413–415*b*
  tannery workers 23–27
  toluene 121–133
  vanadium 339–343
Bitumen, confounding MMMF exposure 613–615, 816
Bladder cytology, tannery workers 23–24
Blood levels
  mercury exposure 135–145
  toluene exposure 129–130
Boilers, vanadium exposure during cleaning 339–343
Breath analysis, toluene exposure 130–131
British Occupational Hygiene Society (BOHS), conferences
  annual 71–98, 219–225
  noise 405–412
Bronchial lining, role in fibre carcinogenesis 395–400

SUBJECT INDEX

b – Book Review *c* – Letter to the Editor

Acrolein, eye:lung sensitivity 265–267
Actinomycetes, airborne
  cotton mills 1–19
  landfill sites 508–509
Activated carbon sorbents 31–38
Aerosol generation, fibrous dusts 401–403, 732–733, 766–767, 776–777
Aetiology of cancer 791–797, 799–802, 803, 816–817
Air ions, effect on mood and performance 285–290
Air sampling
  at cotton mills 3
  at landfill sites 506–508
  for ketones 31–38
  for mercury vapour 139–140
  for oil mist 241–247
Air sampling instruments
  cascade impactors 464–472
  cyclones 39–52
  detector tubes 31–38
  diffusive 105–106*c*
  high flowrate 39–52, 195–209
  konimeters 441–449, 451–461
  light-scattering 181–193
  personal 275–276*b*, 463–479
  size-selective 39–52, 181–193, 195–209, 463–479
Airflow, visualization using water fog 255–259
Ammonia, eye:lung sensitivity 265–267
Animal studies
  asbestos 233–240, 755–764
  in hamsters 731–754
  in rats 233–240, 375–393, 693–709, 711–729, 731–754, 755–764, 765–790
  MMMF 693–709, 711–729, 731–754, 755–764, 765–790, 803
  quartz 375–393
  titanium dioxide 375–393
Annals of Occupational Hygiene
  Editor: WH Walton *v–xiv*
  Publisher: R Maxwell *xiii*
Arsenic, confounding MMMF exposure 612–615, 816
Asbestolux board, source of airborne fibres 429–439
Asbestos
  airborne levels in buildings 119(*corr.*), 429–439
  amosite 261–264
  animal studies 233–240, 755–764
  carcinogenicity 395–400, 755–764
  chrysotile 233–240, 683–692, 693–709, 755–764
  confounding MMMF exposure 613–616, 663–675, 681
  crocidolite 683–692, 693–709
  detection in bulk samples 227–232
  detection limit 261–264
  determination in talc 219–225
  erionite 683–692
  fibre durability 683–692, 693–709
  fibre size distribution 233–240
  lung clearance 233–240, 693–709
  sample evaluation 363–373
  screening, test kit 227–232
  tremolite 219–225
Audiometry 277(*corr.*)

Bacteria, airborne
  cotton mills 1–19
  landfill sites 506–510
Benzene exposure, from petrol 345–355
Biological monitoring
  chemical hazards 413–415*b*
  tannery workers 23–27
  toluene 121–133
  vanadium 339–343
Bitumen, confounding MMMF exposure 613–615, 816
Bladder cytology, tannery workers 23–24
Blood levels
  mercury exposure 135–145
  toluene exposure 129–130
Boilers, vanadium exposure during cleaning 339–343
Breath analysis, toluene exposure 130–131
British Occupational Hygiene Society (BOHS), conferences
  annual 71–98, 219–225
  noise 405–412
Bronchial lining, role in fibre carcinogenesis 395–400

Buildings
airborne asbestos levels 119(*corr.*), 429–439
indoor environment 493–504
Butanone, eye:lung sensitivity 265–267

Cancer
aetiology 791–797, 799–802, 803, 816–817
in tannery workers 21–30
MMMF 603–623, 625–656, 657–662, 663–675, 808–813, 816–818
Carcinogenicity
asbestos 395–400, 755–764
MMMF 744–748, 755–764, 784–790, 791–797, 799–802, 803
Carcinogens
legislative control 84
screening tests 109*b*
Cascade impactors 464–472
Cell transformation tests 109*b*
China, occupational health 273–274*b*
Chromium (VI), in welding fume 325–338, 269–270*c*
Clearance of inhaled particles
kinetic model 384–390
mineral fibres 233–240, 693–709, 725–727, 731–754, 778–782
Coal–tar pitch volatiles 357–361
Coalmine machinery, dust extraction drum 154–160
Coalmines, dust control 147–160, 161–179
Conferences
BOHS annual 71–98, 219–225
MMMF 99–102
noise 405–412
Theodore F Hatch 107*b*
Construction workers, MMMF exposure 663–675
Control limits 75–78
Control of Substances Hazardous to Health (COSHH) Regulations
complexity 84–85
conference 71–93
cost of implementation 85–86, 89
enforcement 89
exposure limits 75–79, 88–89
scope 82–84
terminology 85
Cotton mills, airborne micro–organisms in 1–19
Cowl, effect on fibre sampling 369
CPM3 respirable dust sampler 195–209
Cyclones, high flow rate 39–52

Definitions
carcinogenic fibres 799–802
fibres 521, 524–525
mineral wool 529
Deposition of inhaled particles, kinetic model 384–390
Detector tubes, sorbents for 31–38
Diffusive samplers 105–106*c*
Dust concentrations, landfill sites 508–510
Dust control, water–powered 147–160, 164–170
Dusts, occupational hygiene 275–276*b*

Electromagnetic fields, health effects 272–273*b*
Epidemiology, MMMF exposure 603–623, 625–656, 657–662, 663–675, 677–680, 681–682, 805–819
European historical MMMF study 567–582, 583–593, 603–623, 681
Exposure limits
biological 128
control limits 75–78
MMMF 523–524, 547–555
radiofrequency fields 272–273*b*
setting 91–93
Exposure–dose relationship, lung diseases 391
Eyes
protection 67–70
sensitivity to irritants *cf.* lung 265–267

Fibre sample evaluation
counting rules 53–66, 367–370, 434
European Reference Method 53–66
in houses 430–439
inter–laboratory exchanges 557–565
mass/number 547–555
MMMF 547–555, 557–565, 569–573
NIOSH *cf.* AIA methods 363–373
SEM 561–564
TEM *cf.* PCOM 430–439
Fibres
carcinogenicity 791–797, 799–802
definitions 521, 524–525
durability 683–692, 783–784, 799–802
size and carcinogenicity 638–642, 653
See also Asbestos; MMMF
Formaldehyde, confounding MMMF exposure 613–616
Fungal spores, airborne
cotton mills 1–19
landfill sites 508–509

Gases, occupational hygiene 275–276*b*
Gloves, vibration protection 249–254

Hatch, Theodore F
Obituary 111–117
Symposium 107*b*
Hearing protectors
effect on performance 291–298
muffs 291–298
muffs and plugs combined 299–309
Historical dust counts, standardization 441–449, 451–461
History, MMMF production 529–544, 567–582, 583–593, 603–623

Information sources 275–276*b*
Inspirable dust spectrometer 463–479
Insulation installation, fibre exposure 595–599
Ionized air, effect on mood and performance 285–290

K2 screening test for asbestos 227–232
Ketones, sorbents for 31–38
Konimeters 441–449, 451–461

Landfill sites, working conditions 505–513
Legionellosis 415–415*b*
Legislation
  control of hazardous substances 71–80, 81–88
  MMMF 523–526
Lipids, role in fibre carcinogenesis 395–400
Lung cytology tannery workers 20
Lung function surveillance, glass fibre workers 678–679
Lungs, sensitivity to irritants *cf.* eyes 265–267
Lymph nodes, dust burden 375–393

Man-made mineral fibres (MMMF)
  aerosol generation 401–403, 732–733, 766–767, 776–777
  animal studies 693–709, 711–729, 731–754, 755–764, 765–790, 803
  biological effects 99–102
  cancer 603–623, 625–656, 657–662, 663–675, 808–813, 816–818
  carcinogenicity 744–748, 755–764, 784–790, 791–797, 799–802, 803
  ceramic fibres 731–754
  ceramic wool 693–709
  continuous filament 634–640, 805–819
  definitions 529–544
  dust emission 569–571
  epidemiology 603–623, 625–656, 657–662, 663–675, 677–680, 681–682, 805–819
  exposure confounders 540–544, 573–577, 584–593, 601, 612–616, 643–651, 663–675, 681, 815–816
  exposure levels 595–599, 822
  exposure limits 523–524, 547–555
  fibre durability 683–692, 693–709, 783–784, 791–792, 799–802, 803
  fibrogenicity 793
  glass fibres 401–403, 634–653, 657–662, 677–680, 693–709, 711–729, 731–754, 755–764
  glass wool 536–538, 567–582, 634–640, 683–692, 693–709, 755–764, 805–819
  guidance for production/use 526–528
  insulation wool 567–582, 583–593
  legislation 523–526
  lung clearance 693–709, 725–727, 757–760, 778–782
  lung function surveillance 678–679
  mass/number indices (MNI) 211–217
  mesothelioma 642–643, 663–675, 681–682, 746, 793, 812
  mineral wool 529–544, 634–653
  mortality 603–623, 625–656, 657–662, 805–819
  past exposure levels 539–540, 567–582, 583–593, 601, 626–627, 811, 814–817
  production history 529–544, 567–582, 583–593
  respiratory morbidity 677–680
  rock wool 567–582, 583–593, 595–599, 805–819
  sample evaluation 547–555, 557–565, 569–573
  screening test 547–555
  slag wool 567–582, 583–593, 683–692, 731–754, 805–819
Membrane filter method 53–56, 363–373
Mesothelioma, MMMF 642–643, 663–675, 681–682, 746, 793, 812
Methyl butanone, eye:lung sensitivity 265–267
Mood, effect of negative air ions 285–290
Mortality, MMMF 603–623, 625–656, 657–662
Multiple exposure
  asbestos and smoking 395–400
  MMMF and pollutants 540–544, 573–577, 584–593, 601, 612–616, 643–651, 663–675, 681, 815–816

Noise
  conference report 405–412
  hearing loss measurement 277(*corr.*)

Obituary, Prof. Theodore F Hatch 111–117
Occupational health, China 273–274*b*
Occupational hygiene
  concepts and methods 107*b*
  Open Tech project 275–276*b*
Offices, work-related symptoms 493–504
Oil, confounding MMMF exposure 540–544, 573–577, 584–593, 601, 816
Oil mist determination 241–247
Open Tech project, occupational hygiene 275–276*b*
Ozone in welding fume 269–270*c*

Pentanone, eye:lung sensitivity 265–267
Performance
  and hearing protectors 291–298
  and negative air ions 285–290
Personal dust samplers 275–276*b*, 463–479
Personal sampling, mercury vapour 139–140
Petrol, and benzene exposure 345–355
Phase contrast optical microscopy (PCOM)
  cf. TEM 430–439
  fibre visibility 261–264
  MMMF sample evaluation 547–555, 557–565
Polycyclic aromatic hydrocarbons (PAH)
  confounding MMMF exposure 816
  fibre uptake in lung 395–400
Protective clothing
  gloves 249–254
  landfill sites 511–512

Protective equipment
  eyes 67–70
  hearing 291–298, 299–309
  reasons for non-use 67
  respiratory 481–491
Psychological effects of air ions 285–290

Quartz
  animal inhalation 375–393
  cytotoxicity and surface properties 417–427
Questionnaires
  office environment 494–497
  respiratory 678–679
  self-reported exposure data 670–674

Radiation protection
  quality factor 276–278[b]
  X-ray optics 271–271[b]
Radiofrequency fields, health effects 272–273[b]
Respirable dust
  high flowrate sampler 195–209
  optical determination 181–193
  samplers 39–52
Respirators, nuisance dust 481–491
Respiratory morbidity, MMMF 813–814
Risk assessment, quantitative 271[b]

Scanning electron microscopy (SEM), MMMF sample evaluation 561–564
Screening Limit Value (SLV) for MMMF 547–555
Shipbuilding, rockwool exposure 595–599
Sick building syndrome 493–504
Silica
  animal inhalation 375–393
  cytotoxicity and surface properties 417–427
  fibre durability 683–692
Skin diseases, occupational 95–98
Smoking
  and asbestos exposure 395–400
  confounding MMMF exposure 643–651, 681, 808
Sorbents, for sampling ketones 31–38
Spectrometers, personal inspirable dust 463–479
Spectroscopy, coal-tar pitch volatiles determination 357–361
Stress and negative air ions 285–290
Sulphur dioxide, eye:lung sensitivity 265–267

Talc, determination of tremolite in 219–225
Tanning, carcinogenic risks 21–30
Titanium dioxide, animal inhalation 375–393
Toluene, biological monitoring 121–133
Transmission electron microscopy (TEM)
  cf. PCOM 430–439
  detection limits, tremolite 219–225
Tyndallometer 181–193

Urinary mutagens, tannery workers 24–25
Urine sampling
  toluene 129
  vanadium 339–343

Vanadium, biological monitoring 339–343
Vapours, occupational hygiene 275–276[b]
Ventilation, effect on airborne fibre levels 574–575, 591, 601
Ventilation, exhaust
  cost of HSE test regime 311–324
  engineering 108–109[b]
  hood capture efficiency 103–104[c]
  water-powered 147–160
Ventilation, in offices 495–496
Vibration, efficiency of gloves 249–254
Vitiligo 97

Water fog, for airflow visualization 255–259
Water sprays, dust control 147–160, 161–179
Welding fume
  chromium (VI) and ozone in 269–270[c]
  effect of monitoring procedure on Cr(VI) value 325–338
WHO/EURO Reference Scheme, MMMF 557–565, 569–573
Working Group on the Assessment of Toxic Chemicals (WATCH) 91–93

X-ray optics, radiation protection 271–272[b]
XAD polymers, sorbents for ketones 31–38

Zinc additives, tracers for oil mist determination 241–247

AUTHOR INDEX

^{b} – Book Review ^{c} – Letter to the Editor

ABDELADIM, S. 135
AHLBERG, M. 241
AKIYAMA, T. 401
ANDERSEN, A. 603
ARCHULETA, R.F. 731
ARMBRUSTER, L. 181

BASS, J.H. 493
BELLMANN, B. 693, 755
BERNSTEIN, D.M. 711
BERTAZZI, P. 603
BLIGHT, B.J.N. 261
BOLTON, R.E. 109^b, 375
BREUM, N.O. 547
BRIERLEY, T. 147
BROOKS, D.J. 147
BROWN, P. 53
BROWN, R.H. 105^c
BURDETT, G.J. 119(*corr.*)
BURGE, S. 493
BUTI, R. 21
BUXTON, P.K. 95

CADERNI, G. 21
CALLAHAN, C. 625
CAMPBELL, L. 121
CARIAGGI, P. 21
CARLEBORG, L. 31
CEULEMANS, E. 135
CHANDLER, H.A. 339
CHARNAY, N. 603
CHERRIE, J.W. 481, 567, 583, 603
CIPPARRONE, G. 21
CLAUDE, J. 603
COE, J.E. 265
COLLIS, M.D. 285
CONFORTINI, M. 21
CONRADT, R. 683
CORRADETTI, E. 595
COSSEY, J.R. 39
COSTANTINI, A.S. 21
COURBON, P. 195
COWIE, H. 375
CRAWFORD, N.P. 53, 557
CROCKFORD, G.W. 429
CUSTARD, G. 299

DANIEL, H. 765
DAVEY, J.B. 67
de la OSA, P.D. 363
DENNIS, J.A. 272^b
DODGSON, J. 567, 603
DOLARA, P. 21
DOLL, R. 805
DOUGLAS, R.B. 265
DREW, R.T. 711
DUBRULLE, P. 249

ELLISON, J.McK. 275^b, 405
ENGHOLM, G. 663
ENGLUND, A. 663
ENTERLINE, P.E. 625
ESTEVE, J. 603
ETTALA, M. 505

FABRIES, J.F. 195
FÄNGMARK, I. 241
FLETCHER, A.C. 603, 663
FLETCHER, B. 103^c
FORD, V.H.W. 147
FORSYTH, A. 98
FRENTZEL-BEYME, R. 603

GARDNER, M.J. 603
GAZZI, D. 429
GEE, D. 89
GERDE, P. 395
GIBSON, H. 463
GONZALEZ-FERNANDEZ, E. 363
GRANDJEAN, P. 601, 681, 803
GRAY, C.N. 269^c
GROAT, S. 567

HALLIN, N. 663
HARRISON, E.K. 357
HEDGE, A. 285, 493
HENDERSON, V. 625
HENIN, J.P. 765
HESBERT, A. 233
HOLDEN, H.J. 339
HOWIE, R.M. 481

JAFFREY, S.A.M.T. 119(*corr.*)
JAMES, G.C. 161
JAMIESON, E. 657
JARVISALO, J.O. 557
JENSEN, O. 603
JOHNSON, N.F. 731
JOHNSTON, A.M. 276^b, 375
JONES, A.D. 53, 161, 375
JULIAN, J.A. 657

KAMSTRUP, O. 583
KAUFFER, E. 233
KELLO, D. 557
KENNEDY, D.A. 255
KENNY, L.C. 261
KING, E. 413^b
KLÖPPEL, H. 693
KÖNIG, H. 693
KRANTZ, S. 523, 583
KRIEGSEIS, W. 417
KUSCHNER, M. 711, 791

LACEY, J. 1
LACEY, M.E. 1
LAUWERYS, R. 135
Le BOUFFANT, L. 765
LEMONNIER, M. 233
LEVIN, J.O. 31
LINANDER, W. 583
LOCKEY, J.E. 677
LOIKKANEN, I. 505

MACLAREN, W.M. 53
McMILLAN, C. 375
MADDAU, C. 21
MALCHAIRE, J. 249
MANNOZZI, A. 595
MARCONI, A. 595
MARK, D. 463
MARSH, D.M. 121
MARSH, G.M. 625
MARTIN, F.R. 363
MARTIN, J.C. 765
MOORE, S. 339
MUHLE, H. 693, 755
MUIR, D.C.F. 441, 451, 657

NAZAR, M.A. 219
NILSSON, C.A. 241
NORDLINDER, R. 345
NORMAND, C. 765
NYGREN, O. 241

OHBERG, I. 529, 583
OLOFSSON, B. 241
OLSEN, J. 603
ORTIZ, L.W. 731

PACI, E. 21
PADDLE, G.M. 271*b*
PANG, T.W.S. 219
PEDERSEN, B. 325
POTT, F. 693, 755, 799
RAHKONEN, P. 505
RAMNAS, O. 345
RAWLINSON, R.D. 291, 299
REEVES, G.D. 339
REMAEUS, B. 523
RENS, G. 249
ROBERTSON, A. (Birmingham) 493
ROBERTSON, A. (Edinburgh) 481
ROBINSON, D.W. 270(*corr.*)
ROELS, H. 135
ROLT, D.A. 73
ROOD, A.P. 261

SAHLE, W. 227
SALVADORI, M. 21
SARACCI, R. 603
SAUNDERS, K.J. 105*c*
SCALA, D. 21
SCHARMANN, A. 417
SCHNEIDER, T. 211, 547, 583
SCHOLANDER, P. 395
SCHOLZE, H. 683
SCHONFELD, F.A. 219
SEBESTYEN, A. 441, 451
SERAFIN, J. 417
SHANNON, H.S. 657
SHERWOOD, R.J. 273*b*
SILK, S.J. 91
SIMONATO, L. 603
SIMPSON, J.D. 271*b*
SMITH, D.M. 731
SPURNY, K. 693
STERN, R.M. 325
STEVENSON, C.J. 96
STOTT, M.D. 311
SYKES, J.M. 415*b*

TAKENAKA, S. 755
TANAKA, I. 401
TEPPO, L. 603
THOMAS, B.S. 357
THOMSEN, E. 325
TICHOUX G. 765
TROLARD, F. 765

VAUGHAN, N.P. 39
VERMA, D.K. 441, 451
VIGNERON, J.C. 233
VINCENT, J.H. 107*b*, 108*b*, 375, 463

WADDINGTON, J.I. 821
WALSH, C. 657
WALTON, W.H. *xiii–xiv*, 111, 519
WESTERHOLM, P. 603
WHEELER, P.D. 291, 299
WHITE, M.A. 339
WILSON, R.K. 121
WILSON, S. 493
WINKELMANN, R. 603
WINTER, P.D. 603
WINTERBOTTOM, J.E. 81
WROBEL, R. 195

ZIEM, U. 755
ZOCCHETTI, C. 603

VOLUME 31 CONTENTS

NUMBER 1

J. Lacey and M. E. Lacey	1	Micro-organisms in the air of cotton mills
A. S. Costantini, E. Paci, D. Scala, P. Cariaggi, G. Cipparrone, M. Confortini, C. Maddau, R. Buti, P. Dolara, M. Salvadori and G. Caderni	21	Monitoring of carcinogenic risks in tannery workers by means of desquamative lung and bladder cytology and urinary mutagenicity
J.-O. Levin and L. Carleborg	31	Evaluation of solid sorbents for sampling ketones in workroom air
J. R. Cossey and N. P. Vaughan	39	A higher-flow rate cyclone for determination of respirable dust
N. P. Crawford, W. M. Maclaren, P. Brown and A. D. Jones	53	A comparison of fibre counting stopping rules in the application of the membrane filter method
J. B. Davey	67	Industrial eye protection

The British Occupational Hygiene Society Annual Conference, Edinburgh, April 1986.
Session V: The COSHH Regulations

D. A. Rolt	73	The aims of legislation
J. E. Winterbottom	81	The Control of Substances Hazardous to Health regulations: an industrialist's view of legislation
D. Gee	89	The COSHH regulations: a trade union view
S. J. Silk	91	Setting recommended limits for occupational exposure

Session II: Occupational Skin Diseases. Extended abstracts of papers presented

P. K. Buxton	95	Pathological mechanisms of contact dermatitis
C. J. Stevenson	96	Outbreaks of occupationally associated skin disease with particular reference to chemically induced depigmentation (*Occupational vitiligo*)
A. Forsyth	98	Methods of detection and prevention of occupational skin disease
Conference Report	99	International Symposium on Man-Made Mineral Fibres in the Working Environment, Copenhagen, 28–29 October 1986. Summary Report
Letters to the Editor		
B. Fletcher	103	Effect of cross-flow on capture efficiency of LEV hoods
R. H. Brown and K. J. Saunders	105	Diffusive sampling

Contents

Book Reviews

J. H. VINCENT 107 *Advances in Modern Environmental Toxicology, Vol. VIII. Occupational and Industrial Hygiene: Concepts and Methods. A Symposium in Honor of Theodore F. Hatch.* Edited by N. A. ESMEN and M. A. MEHLMAN

J. H. VINCENT 108 *Ventilation '85. Proceedings of the First International Symposium on Ventilation for Contaminant Control,* held 1–3 October 1985 in Toronto, Canada. Edited by H. D. GOODFELLOW

R. E. BOLTON 109 *IARC Scientific Publications No. 67, Transformation Assay of Established Cell Lines: Mechanisms and Application.* Edited by T. KAKUNAGA and H. YAMASAKI

Obituary

W. H. WALTON 111 THEODORE F. HATCH

Erratum 119

NUMBER 2

L. CAMPBELL, D. M. MARSH and H. K. WILSON 121 Towards a biological monitoring strategy for toluene

H. ROELS, S. ABDELADIM, E. CEULEMANS and R. LAUWERYS 135 Relationships between the concentrations of mercury in air and in blood or urine in workers exposed to mercury vapour

V. H. W. FORD, T. BRIERLEY and D. J. BROOKS 147 Water-powered extraction systems for dust control on coalface production machines

A. D. JONES and G. C. JAMES 161 Air movement and cleaning by water sprays

L. ARMBRUSTER 181 A new generation of light-scattering instruments for respirable dust measurement

J.-F. FABRIES, R. WROBEL and P. COURBON 195 A compact high-flowrate respirable dust sampler: the CPM3

T. SCHNEIDER 211 Mass concentration of airborne man-made mineral fibres

T. W. S. PANG, F. A. SCHONFELD and M. A. NAZAR 219 The determination of tremolite asbestos in talc powder samples

W. SAHLE 227 Evaluation of the K^2 asbestos screening test kit

E. KAUFFER, J. C. VIGNERON, A. HESBERT and M. LEMONNIER 233 A study of the length and diameter of fibres, in lung and in broncho-alveolar lavage fluid, following exposure of rats to chrysotile asbestos

C.-A. NILSSON, O. NYGREN, M. AHLBERG, I. FÄNGMARK and B. OLOFSSON 241 Determination of oil aerosol levels in air using zinc in additives as a tracer

Contents

G. RENS, P. DUBRULLE and J. MALCHAIRE	249	Efficiency of conventional gloves against vibration
D. A. KENNEDY	255	Water fog as a medium for visualization of airflows
Short Communications		
L. C. KENNY, A. P. ROOD and B. J. N. BLIGHT	261	A direct measurement of the visibility of amosite asbestos fibres by phase contrast optical microscopy
R. B. DOUGLAS and J. E. COE	265	The relative sensitivity of the human eye and lung to irritant gases
Letters to the Editor		
C. N. GRAY	269	Hexavalent chromium in welding fume and the role of ozone
D. W. ROBINSON	270	Correction
Book Reviews		
G. M. PADDLE	271	*Quantitative Risk Assessment for Environmental and Occupational Health*. By W. H. HALLENBACK and K. M. CUNNINGHAM
J. D. SIMPSON	271	*Occupational Hygiene Monograph No. 15: A Guide to Radiation Protection in the Use of X-Ray Optics Equipment*. By a Working Group convened by the Health and Safety Executive
J. A. DENNIS	272	*NCRP Report No. 86, Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields*. National Council on Radiation Protection and Measurements
R. J. SHERWOOD	273	*Occupational Health Bulletin, Selected Papers/Abstracts, Vol. 1, 1985*. Edited by Y.-X. LIANG, X.-Z. JIANG and Y.-L. WANG
J. McK. ELLISON	275	*Occupational Health and Safety Opening Learning Unit on 'Harmful Dusts, Gases and Vapours': Module 6, Information Sources* (by JEAN CONYERS) and *Module 2, Personal Sampling for Dust* (based on material written by DR A. YOULE)
A. M. JOHNSTON	276	*ICRU Report 40: The Quality Factor in Radiation Protection*. International Commission on Radiation Units and Measurements
	278	Other Books Received
News Items	281	Changes in Part-Time M.Sc. Course in Occupational Hygiene, University of Manchester
	281	"Salvatore Maugeri Prize" offered by Fondazione Clinica del Lavoro of Pavia on Studies in the Field of Occupational Medicine and Rehabilitation

NUMBER 3

	283	J. T. Carter, President, The British Occupational Hygiene Society, 1987–1988
A. Hedge and M. D. Collis	285	Do negative air ions affect human mood and performance?
R. D. Rawlinson and P. D. Wheeler	291	The effects of industrial use on the acoustical performance of some earmuffs
R. D. Rawlinson, P. D. Wheeler and G. Custard	299	The acoustical attenuation of some combinations of earplugs and earmuffs
M. D. Stott	311	A study of the workload implications of the examination of local exhaust ventilation plant controlling harmful substances
B. Pedersen, E. Thomsen and R. M. Stern	325	Some problems in sampling, analysis and evaluation of welding fumes containing Cr(VI)
M. A. White, G. D. Reeves, S. Moore, H. A. Chandler and H. J. Holden	339	Sensitive determination of urinary vanadium as a measure of occupational exposure during cleaning of oil fired boilers
R. Nordlinder and O. Ramnäs	345	Exposure to benzene at different work places in Sweden
E. K. Harrison and B. S. Thomas	357	The spectroscopic determination of coal tar pitch volatiles
E. Gonzalez-Fernandez, P. D. de la Osa and F. R. Martin	363	Comparison of AIA and NIOSH methods on asbestos fibre measurements in the workplace
J. H. Vincent, A. D. Jones, A. M. Johnston, C. McMillan, R. E. Bolton and H. Cowie	375	Accumulation of inhaled mineral dust in the lung and associated lymph nodes: implications for exposure and dose in occupational lung disease
P. Gerde and P. Scholander	395	A hypothesis concerning asbestos carcinogenicity: the migration of lipophilic carcinogens in adsorbed lipid bilayers
Short Communication		
I. Tanaka and T. Akiyama	401	Fibrous particles generator for inhalation toxicity studies
Conference Report		
J. McK. Ellison	405	Noise in the workplace: Report of the BOHS Autumn Meeting 1986
Book Reviews		
E. King	413	*Occupational and Environmental Chemical Hazards: Cellular Biochemical Indices for Monitoring Toxicity. Edited by* V. Foa, E. A. Emmett, M. Maroni and A. Colombi
J. M. Sykes	415	*WHO Environmental Health Series 14: Environmental Aspects of the Control of Legionellosis.* Report on a WHO meeting

Contents

NUMBER 4A

Dedicated to William Henry Walton, OBE on the occasion of his 75th birthday and his retirement as Honorary Editor-in-chief 1972–1987

	vii	Foreword
	ix	Henry Walton
	xi	Working with Henry Walton
	xiii	Editorial
W. KRIEGSEIS, A. SCHARMANN and J. SERAFIN	417	Investigations of surface properties of silica dusts with regard to their cytotoxicity
D. GAZZI and G. W. CROCKFORD	429	Indoor asbestos levels on a housing estate (determined by transmission electron microscopy)
A. SEBESTYEN, D. K. VERMA and D. C. F. MUIR	441	An evaluation of konimeter performance—I. Determination of the particle acceptance curves of continuously aspirated konimeters using latex spheres
D. K. VERMA, A. SEBESTYEN and D. C. F. MUIR	451	An evaluation of konimeter performance—II. A field comparison of konimeters
H. GIBSON, J. H. VINCENT and D. MARK	463	A personal inspirable aerosol spectrometer for applications in occupational hygiene research
J. W. CHERRIE, R. M. HOWIE and A. ROBERTSON	481	The performance of nuisance dust respirators against typical industrial aerosols
S. BURGE, A. HEDGE, S. WILSON, J. H. BASS and A. ROBERTSON	493	Sick building syndrome: a study of 4373 office workers
Short Communication		
P. RAHKONEN, M. ETTALA and I. LOIKKANEN	505	Working conditions and hygiene at sanitary landfills in Finland
	515	Books Received

Contents

NUMBER 4B

Man-Made Mineral Fibres in the Working Environment

	517	Editor's Preface
	519	Preamble
	521	Symbols for fibres
SESSION 1. The workplace environment—past and present		
S. KRANTZ and B. REMAEUS	523	Current regulations and guidelines for MMMF production and use
I. ÖHBERG	529	Technological development of the mineral wool industry in Europe
T. SCHNEIDER and N. O. BREUM	547	Screening man-made vitreous fibre exposures by gravimetric dust measurements
N. P. CRAWFORD, D. KELLO and J. O. JARVISALO	557	Monitoring and evaluating man-made mineral fibres: work of a WHO/EURO Reference Scheme
J. DODGSON, J. CHERRIE and S. GROAT	567	Estimates of past exposure to respirable man-made mineral fibres in the European insulation wool industry
J. CHERRIE, S. KRANTZ, T. SCHNEIDER, I. ÖHBERG, O. KAMSTRUP and W. LINANDER	583	An experimental simulation of an early rock wool/slag wool production process
A. MARCONI, E. CORRADETTI and A. MANNOZZI	595	Concentrations of man-made vitreous fibres during installation of insulation materials aboard ships at Ancona Naval Dockyards
P. GRANDJEAN	601	Report on Discussion
SESSION 2. Epidemiological studies		
L. SIMONATO, A. C. FLETCHER, J. W. CHERRIE, A. ANDERSEN, P. BERTAZZI, N. CHARNAY, J. CLAUDE, J. DODGSON, J. ESTEVE, R. FRENTZEL-BEYME, M. J. GARDNER, O. JENSEN, J. OLSEN, L. TEPPO, R. WINKELMANN, P. WESTERHOLM, P. D. WINTER, C. ZOCCHETTI and R. SARACCI	603	The International Agency for Research on Cancer historical cohort study of MMMF production workers in seven European countries: extension of the follow-up
P. E. ENTERLINE, G. M. MARSH, V. HENDERSON and C. CALLAHAN	625	Mortality update of a cohort of U.S. man-made mineral fibre workers
H. S. SHANNON, E. JAMIESON, J. A. JULIAN, D. C. F. MUIR and C. WALSH	657	Mortality experience of Ontario glass fibre workers— extended follow-up
G. ENGHOLM, A. ENGLUND, A. C. FLETCHER and N. HALLIN	663	Respiratory cancer incidence in Swedish construction workers exposed to man-made mineral fibres and asbestos

Contents

J. E. LOCKEY	677	Respiratory morbidity of man-made vitreous fibres production workers: introduction to a prospective study
P. GRANDJEAN	681	Report on Discussion
		SESSION 3. Experimental studies
H. SCHOLZE and R. CONRADT	683	An *in vitro* study of the chemical durability of siliceous fibres
B. BELLMANN, H. MUHLE, F. POTT, H. KÖNIG, H. KLÖPPEL and K. SPURNY	693	Persistence of man-made mineral fibres (MMMF) and asbestos in rat lungs
R. T. DREW, M. KUSCHNER and D. M. BERNSTEIN	711	The chronic effects of exposure of rats to sized glass fibres
D. M. SMITH, L. W. ORTIZ, R. F. ARCHULETA and N. F. JOHNSON	731	Long-term health effects in hamsters and rats exposed chronically to man-made vitreous fibres
H. MUHLE, F. POTT, B. BELLMANN, S. TAKENAKA and U. ZIEM	755	Inhalation and injection experiments in rats to test the carcinogenicity of MMMF
L. LE BOUFFANT, H. DANIEL, J. P. HENIN, J. C. MARTIN, C. NORMAND, G. TICHOUX and F. TROLARD	765	Experimental study on long-term effects of inhaled MMMF on the lungs of rats
M. KUSCHNER	791	The effects of MMMF on animal systems: some reflections on their pathogenesis
Short additional presentation F. POTT	799	Problems in defining carcinogenic fibres
P. GRANDJEAN	803	Report on Discussion
R. DOLL	805	Symposium on MMMF, Copenhagen, October 1986: overview and conclusions
J. I. WADDINGTON	821	Closure of the MMMF conference
	823	List of participants
	831	Index